

**Owner & User Manual**  
SWC-TSTAT-2 Multifunction Thermostat



Ver 2

Your new air conditioning system thermostat has been built using the best components and design philosophy currently available. As a result, if properly installed your Spinwave Systems, Inc. SWC-TSTAT-2 thermostat will provide you with many years of trouble free comfort.

The SWC-TSTAT-2 has been designed and built to be an attractive, highly reliable and an easy to use thermostat. By taking the time to read and understand these simple instructions you can take advantage of many of the capabilities that are offered in this premium product.

*Great care has been taken in the preparation of this manual. Spinwave Systems, Inc. takes no responsibility for errors or omissions contained in this document. It is the responsibility of the user to ensure this thermostat, or equipment connected to it is operating to their respective specifications and in a safe manner.*

*Due to ongoing product improvement Spinwave Systems reserves the right to change the specifications of the SWC-TSTAT-2 thermostat (or its components) without notice.*

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## Table of Contents

<b>Introduction .....</b>	<b>5</b>
<b>Residential Programmable Mode .....</b>	<b>7</b>
On / Off and Mode Selection .....	7
Setting the Fan Functions .....	7
Setting the Clock.....	7
Programming Your 4 Daily Events.....	8
Temperature Override.....	13
To Set a Permanent Program Hold. ....	14
To Review the Set Temperature. ....	15
<b>Commercial Programmable Mode.....</b>	<b>16</b>
On /Off and Mode Selection .....	16
Setting the Fan Functions. ....	16
Setting the Clock.....	16
Programming Your 2 Daily Events.....	17
After Hours Run Timer .....	20
To Review the Set Temperature. ....	20
<b>Manual Mode .....</b>	<b>21</b>
On / Off and Mode Selection .....	21
Setting the Fan Function .....	21

Setting the Clock.....	21
Setting Your Desired Temperature .....	22
Switching Between Day and Night Set Points.....	23
To Review the Set Temperature. ....	23
<b>Common Functions .....</b>	<b>24</b>
The Buttons Explained – ON/Off and Mode Selection etc.....	24
Control Modes.....	27
Fan Functions Explained .....	29
<b>Auto Fan Mode .....</b>	<b>29</b>
<b>Fan On Mode .....</b>	<b>29</b>
Fan Speeds .....	30
<b>Single Fan Speed .....</b>	<b>30</b>
<b>Three Fan Speed .....</b>	<b>30</b>
LCD Explained .....	31
ModBus Communications. ....	34
Remote Temperature Sensors.....	35
<b>Troubleshooting.....</b>	<b>36</b>
<b>Specifications.....</b>	<b>38</b>

## Introduction

The SWC-TSTAT-2 thermostat from Spinwave Systems, Inc. is able to be used as a residential programmable thermostat, a commercial programmable thermostat or as a simple to use manual thermostat. Your installer will have set these modes to best suit your individual needs.

For clarity, this user manual is broken into the following main sections.

Residential Programmable Mode. *(See page 7 of this manual).*

Commercial Programmable Mode. *(See page 16 of this manual).*

Manual Mode. *(See page 21 of this manual).*

Common Functions to all modes. *(See page 24 of this manual for additional functions).*

Network Override Functions. *(See page 34 of this manual).*



**Please Note:**

The SWC-TSTAT-2 thermostat can be configured by your installer to a large

variety of configurations, each with specific functions so that your SWC-TSTAT-2 thermostat is perfect for you and your individual needs. As such, this manual may describe a function or feature not active on your thermostat.

## Residential Programmable Mode



### On / Off and Mode Selection

Tap the Mode button to cycle the SWC-TSTAT-2 thermostat through the available modes: Heat, Cool, Auto Mode (Shown by Heat & Cool in the LCD), Emergency Heat (if fitted), and OFF. If the fan mode is set to "FAN ON", when you select "OFF" mode the fan mode will automatically change to "AUTO FAN " (Note – Not all modes may be active on your *SWC-TSTAT-2*).

### Setting the Fan Functions

Details on the fan control functions of the SWC-TSTAT-2 can be found on page 29 of this manual.

### Setting the Clock

The SWC-TSTAT-2 thermostat is fitted with a real time clock. This clock is used by the SWC-TSTAT-2 thermostat for the programming functions as described below.

It is essential that the clock time and day are set accurately if you require your programmed events to start on time.

To set the clock, tap the **“PROG”** button. The LCD will show the hours digit flashing. Use the up (▲) or down (▼) button to adjust the hours to the correct time (note the AM / PM symbol). Tap the **“PROG”** button again and now the minutes digits will flash. Adjust this value using the up (▲) or down (▼) button to show the correct minute. Tap the **“PROG”** button again and now the weekday flashes, again use the up (▲) or down (▼) button to set this value to the correct day of the week. Tap the **“PROG”** button again to exit the clock set function.

#### **Programming Your 4 Daily Events**

The SWC-TSTAT-2 is an 7-day programmable thermostat. For each day of the week you are able to have 4 timed set temperature changes or programmed events. For clarity these events are conveniently named **“1”**, **“2”**, **“3”** & **“4”**.

The number **“1”** event may be used to set the temperature of your home that you would like to wake to.

The number **“2”** event is typically used to set the temperature you wish your home to maintain whilst you are away at work perhaps.

The number **“3”** event is often used to set the temperature you wish to be greeted with upon returning home at the end of the day.

The number **“4”** event can be used to set a comfortable and energy efficient temperature while you sleep.

You are permitted to have every event occur at a different time of the day and set a different heating and cooling temperature for each of the 4 daily events. You are also able to set a heating set point temperature between the heating turned OFF (no heating) and 45 degrees Celsius (113 F). You are able to set a cooling temperature between five degrees Celsius (41F) and the Cooling OFF (no Cooling), provided your installer has not set control limits that restrict this range of adjustment.

**Remember**, each of the 4 programmed event desired temperatures will hold the home temperature until the next event time arrives where the new event desired temperature will then be used. So-

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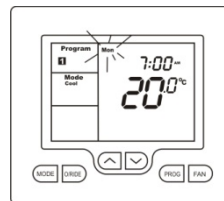
*The "1" event set temperature will be the temperature of your home until the "2" event time arrives, then  
The "2" event set temperature will be the temperature of your home until the "3" event time arrives, then  
The "3" event set temperature will be the temperature of your home until the "4" event time arrives, then  
The "4" event set temperature will be the temperature of your home until the next days "1" event time arrives.*

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Programming your SWC-TSTAT-2 thermostat or setting these daily events is no more complicated than setting the clock as described previously. The same buttons are used in the same sequence, using the "**PROG**" button to advance to the next step, and the up (**▲**) or down (**▼**) buttons to make changes. The LCD shows only relevant information for the event being adjusted thus reducing possible errors that may be caused by having confusing information displayed on the LCD.

**To enter the program mode.**

Press and hold the **"PROG"** button for 3 seconds. The display will change to show the number **"1"** and the Day **"Monday"** flashing. Using the up (▲) or down (▼) buttons adjust the day to the day you wish to start programming or to the day you wish to edit an existing event or program.

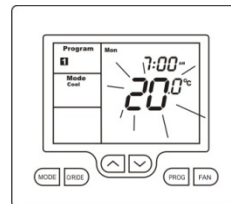


Tap the **"PROG"** button to advance to the next step, the



LCD will show the digit **"1"** with the hour's digit flashing. Using the up (▲) or down (▼) buttons adjust the hours to the time you wish the number **"1"** event to commence for the currently selected day.

Tap the **"PROG"** button again, now the minute's digits flashes. Using the up (▲) or down (▼) buttons set the minute to the time you wish the number **"1"** event to commence.



Tap the **"PROG"** button again, now the word **"HEAT"** (if enabled by the installer) and a temperature value is shown in the LCD, using the up (▲) or down (▼) buttons set the desired heating temperature to be maintained for the number **"1"** event.

Tap the **"PROG"** button again, now the word "Cool" (if enabled by the installer) and a temperature value is shown in the LCD, using the up (▲) or down (▼) buttons set the desired cooling temperature to be maintained for the number "1" event.



*NOTE: The heating set temperature must be at least 1 deg C (2F) lower than the cooling set temperature. If you set the heating or cooling set temperature closer than this minimum value, the SWC-TSTAT-2 thermostat will automatically move the other set point away to maintain this minimum value.*

Tap the **"PROG"** button again and the Day previously selected will be shown along with the digit "2", signifying the 2<sup>nd</sup> daily event is now being programmed. The Hour digit will flash indicating that this value can now be adjusted with the up (▲) or down (▼) buttons. Set the hour to the time you wish the number "2" event to commence as described previously.

Continue to tap the **"PROG"** button to advance you through the event number "2" "Minute", then the set temperature(s) for the number "2" event.

Continuing to tap the **"PROG"** button you will advance to through the number "3" program and then number "4" programs for the day you have chosen to program. Once you have completed programming the number "4" event for that day, tapping the **"PROG"** button again the LCD will now show the word "COPY".

You now have TWO options

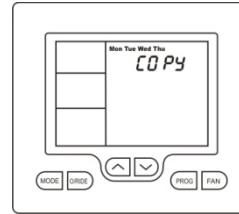
Option 1 – Continue programming as above.

Simply continue to tap the **“PROG”** Button as you have been previously to advance to the next day, “Tuesday” in this example “1”, “2”, “3”, “4” events then Wednesday, Thursday etc, following the same simple steps previously explained....

**OR**

Option 2 - Copy Program

To copy the values you have just programmed for that day to other days of the week, while the word “COPY” is displayed simply tap the up (▲) or down (▼) buttons to “TAG” each additional day you wish to copy the currently set days program to. When you have finished “Tagging” the days you desire press the **“PROG”** button to initiate the copy process. The word “Copy” will flash briefly to confirm the copy process and your current days values will be copied to the days selected. Normal programming steps will resume at the next day to be programmed.

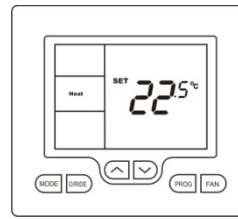


### Temperature Override

To make your SWC-TSTAT-2 thermostat even more capable and flexible, it has been provided with a temporary program override function. This permits you to temporarily change the current event set temperatures, just for today and only for a temporary period.

Your installer will have selected either a fixed timed override period from 1 to 12 hours, or an override that lasts until the next programmed event change.

Simply press and hold the up (▲) or down (▼) buttons for 3 seconds. The SWC-TSTAT-2 thermostat display will change to show the word "SET", and the active set point for the current mode. (Heating, Cooling or Auto modes) as you hold the up (▲) or down (▼) buttons the current set point will change.



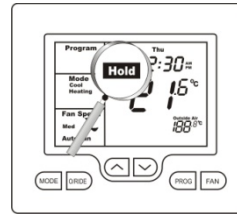
If Auto mode is selected, after adjusting the Heat set point wait without touching a button for 3 seconds for the SWC-TSTAT-2 thermostat display to change to show "Cool" and "SET" and your current cooling set temperature. If desired change this value with the up (▲) or down (▼) buttons. Again wait for three seconds to exit the temporary overridden programmed mode.

The LCD will now flash the current program indicator to remind you an override is in progress. Your new temporary temperature settings will be in use until the override time expires.

**To Set a Permanent Program Hold.**

Tap the **"O/RIDE"** button to override the SWC-TSTAT-2 programmed time schedule and hold the currently set temperature. This set temperature will be maintained until released by tapping the **"O/RIDE"** button again.

The LCD shows the word **"HOLD"** and hides the program event number to confirm the SWC-TSTAT-2 time schedule has been overridden and the current selected temperature is being held.



If desired, while the program is held the current set temperature can be adjusted simply by pressing and holding the up (▲) or down (▼) buttons for 3 seconds. The SWC-TSTAT-2 thermostat display will change to show the word **"SET"**, and the active set point for the current mode. (Heating or Cooling) as you hold the up (▲) or down (▼) buttons the current set point will change.

**To Review the Set Temperature.**

Simply tap the up (▲) or down (▼) button to first turn the LCD backlight then again to display the currently set temperature.

## Commercial Programmable Mode



### On /Off and Mode Selection

Tap the Mode button to cycle the SWC-TSTAT-2 thermostat through the available modes, Heat, Cool, Auto mode (Shown by Heat & Cool in the LCD), Emergency Heat (if fitted), and OFF. If the fan mode is set to “FAN ON”, when you select “OFF” mode the fan mode will automatically change to “AUTO FAN” (Note – Not all modes may be active on your *SWC-TSTAT-2*).

### Setting the Fan Functions.

Detail on the fan control functions of the SWC-TSTAT-2 can be found on page 29 of this manual.

### Setting the Clock

The SWC-TSTAT-2 thermostat is fitted with a real time clock. This clock is used by the SWC-TSTAT-2 thermostat for the programming functions as described below.

It is essential that the clock time and day are set accurately if you require your programmed events to start on time.

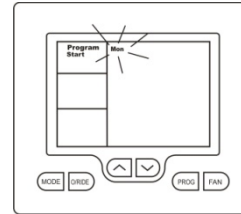
To set the clock, tap the **"PROG"** button. The LCD will show the hours digit flashing. Use the up (▲) or down (▼) button to adjust the hours to the correct time (note the AM / PM symbol). Tap the **"PROG"** button again and now the minutes digits will flash. Adjust this value using the up (▲) or down (▼) button to show the correct minute. Tap the **"PROG"** button again and now the weekday flashes, again use the up (▲) or down (▼) button to set this value to the correct day of the week. Tap the **"PROG"** button again to exit the clock set function.

#### **Programming Your 2 Daily Events**

Commercial programming of the SWC-TSTAT-2 has been designed to be an extremely simple and logical process. The SWC-TSTAT-2 permits you to program a START time for the air conditioning system, then a Stop time for each day of the week. When the SWC-TSTAT-2 is displaying "START" in the LCD, it will maintain whatever set point has been chosen. When the SWC-TSTAT-2 is displaying "STOP" in the LCD it will be OFF (or it will maintain an energy efficient overnight temperature if set by the installer).

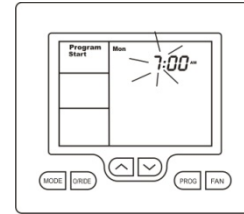
#### **To enter the program mode.**

Press and hold the **"PROG"** button for 3 seconds. The display will change to show the Day "Monday" flashing. Using the up (▲) or down (▼) buttons adjust the day to the day you wish to start programming an event or to the day you wish to edit an existing event.

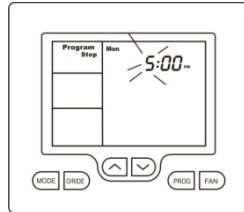


Tap the **“PROG”** button to advance to the next step, The LCD will show the word **“START”** with the hour’s digit flashes. Using the up (▲) or down (▼) buttons adjust the hours value to the time you wish the building Air Conditioning system to start.

Tap the **“PROG”** button again, now the minute’s digits flashes. Using the up (▲) or down (▼) buttons set the minute to the time you wish the building air conditioning system to **“START”** for the currently selected day.



Tap the **“PROG”** button to advance to the next step, The LCD will show the word **“STOP”** with the hour’s digit flashes. Using the up (▲) or down (▼) buttons adjust the hours to the time you wish the building air conditioning system to **“STOP”** for the currently selected day.



Tap the **“PROG”** button again, now the minute’s digits flashes. Using the up (▲) or down (▼) buttons set the minute to the time you wish the building air conditioning system to **“STOP”** for the currently selected day. The LCD will now show the word **“COPY”**.

You now have TWO options

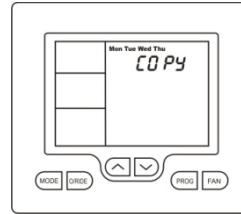
Option 1 - Continue programming as above.

Simply continue to tap the **"PROG"** Button as you have been previously to advance to the next day, "Tuesday" in this example "START" then "STOP" times, then Wednesday, Thursday etc, following the same simple steps previously explained....

**OR**

Option 2 - Copy Program.

To copy the values you have just set to other days of the week tap the up (▲) or down (▼) buttons to "TAG" each additional day you wish to copy the currently set days program to. When you have finished "Tagging" the days you desire press the **"PROG"** button to initiate the copy process. The word "Copy" will flash briefly to confirm the copy process and your current days values will be copied to the days selected. Normal programming will resume at the next day to be programmed.



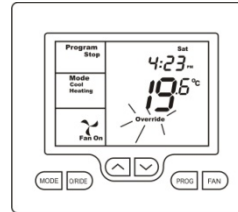
Note: Your thermostats programs may be controlled from a Building Management System (BMS) thereby overriding any program you may have

entered into the thermostat as described above. If the BMS is controlling the thermostat the word “Start” or “Stop” will blink in the LCD to indicate the thermostat program is under BMS control.

#### After Hours Run Timer

For convenience, the installer may have set the after-hours run function. This function permits you to temporarily turn the SWC-TSTAT-2 back on for an installer pre-set period of time if the “Stop” program is running, at the conclusion of which the SWC-TSTAT-2 will automatically turn back off again.

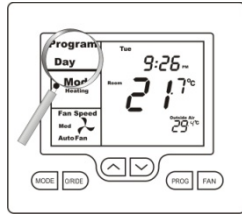
To activate the after-hours run timer, simply tap the “**O/RIDE**” button. (Or, the optional “After Hours” run button on the remote room temperature sensor.) The LCD will show the word “Override” flashing in the LCD. You can cancel any unexpired portion of the timer period by tapping the “**O/RIDE**” button again. The word “Override” will vanish from the screen.



#### To Review the Set Temperature.

Simply tap the up (▲) or down (▼) button to first turn the LCD backlight then again to display the currently set temperature.

## Manual Mode



### On / Off and Mode Selection

Tap the Mode button to cycle the SWC-TSTAT-2 thermostat through the available modes, Heat, Cool, Auto mode (Shown by Heat & Cool in the LCD), Emergency Heat (if fitted), and OFF. If the fan mode is set to “FAN ON”, when you select “OFF” mode the fan mode will automatically change to “FAN AUTO” (Note – Not all modes may be active on your SWC-TSTAT-2).

### Setting the Fan Function

Detail on the fan control functions of the SWC-TSTAT-2 can be found on page 29 of this manual.

### Setting the Clock

The SWC-TSTAT-2 thermostat is fitted with a real time clock. This clock is provided simply to display the current time. It has no other function

To set the clock, press and hold the “**PROG**” button for 3 seconds. The LCD will show the Hours Digit flashing. Use the up (▲) or down (▼) button to adjust the hours to the correct time (note the AM / PM symbol) Tap the “**PROG**” button and now the minute’s

digits will flash. Adjust this value using the up (▲) or down (▼) button to show the correct minute.

Tap the “**PROG**” button again and now the week day flashes, again use the up (▲) or down (▼) button to set this value to the correct day of the week. Tap the “**PROG**” button again to exit the clock set function or simply wait 30 seconds for the SWC-TSTAT-2 to auto exit this menu.

Your clock is now set.

#### **Setting Your Desired Temperature**

Simply press and hold the up (▲) or down (▼) buttons for 3 seconds. The SWC-TSTAT-2 thermostat display will change to show the word “SET”, and the active set point for the current mode. (Heating or Cooling) as you hold the up (▲) or down (▼) buttons the current set point will change.

If Auto mode is selected (Shown by both “Heat” & “Cool” on the display), after adjusting the Heat set point wait without touching a button for 3 seconds the SWC-TSTAT-2 thermostat display will change to show “Cool” and “SET” and your current cooling set temperature. If desired change this value with the up (▲) or down (▼) buttons. Again wait for 3 seconds for the SWC-TSTAT-2 to automatically exit this menu. Your new set temperatures will be maintained.

**Switching Between Day and Night Set Points**

If the function is set by your installer, the SWC-TSTAT-2 will keep two sets of temperatures in its memory, typically used for day and night temperatures. This provides you with a quick and simple way to change between your day and night time set temperatures.

Simply tap the **“PROG”** button to switch between Day & Night Modes. Set the Day and separate Night temperatures as described previously.

**To Review the Set Temperature.**

Simply tap the up (▲) or down (▼) button to first turn the LCD backlight then again to display the currently set temperature.

## Common Functions

### The Buttons Explained – ON/Off and Mode Selection etc

#### Mode

Tap this button to cycle the SWC-TSTAT-2 thermostat through the available modes, Heat only, Cool only, Auto season change over mode (Shown by both Heat and Cool on at the same time), Emergency Heat (if fitted), and OFF. When setting the SWC-TSTAT-2 to OFF mode, the fan mode will automatically change to Fan Auto mode so the fan does not continue to run unexpectedly.

(Note – Not all modes may be active on your SWC-TSTAT-2)

#### **O/RIDE** (Override)

##### Commercial Programmable Mode.

This button initiates the afterhours run timer where, for an installer programmed period the SWC-TSTAT-2 will replace the stop program temperatures and temporarily use the start program temperatures for a pre set period.

##### Residential Programmable Mode.

The “**O/RIDE**” button is used to override the current programs time schedule and to hold the currently set temperature indefinitely. This set temperature will be maintained

until released the held temperature by tapping the “**O/RIDE**” button again. Hold will be displayed in the LCD to confirm this function is active.

**Up (▲)**

Use this button to increase the desired room temperature for the heating or cooling modes, or increase a “value” in programming modes. Also used to force override the pre-programmed temperatures and temporarily replace them with a new higher set temperature.

**Down (▼)**

Use this button to decrease the desired room temperature for heating or cooling modes, or decrease a “value” in programming modes. Also used to force override the pre-programmed temperatures and temporarily replace them with a new lower set temperature.

**PROG (Program)**In Residential or Commercial Programmable mode:

Tap the “**PROG**” button to begin setting the clock. Press and hold the “**PROG**” button for 2 seconds to begin programming your daily events.

In Manual mode:

Tap the “**PROG**” button to switch between Day & Night modes. Press and hold the “**PROG**” button for 2 second set the clock.

## Fan

Single Speed Fan systems-. Tap this button to cycle between Continuous Fan (Fan ON) and Auto Fan.

Three Speed Fan systems – Tap this button to cycle between the 7 available fan modes being Low speed, Medium speed, High speed & Auto Fan speeds in Auto fan mode and then Low speed, Medium speed, High speed in Fan ON mode.

If the SWC-TSTAT-2 is OFF, tapping the “**FAN**” button will turn the fan ON or OFF as desired. If your system has 3 fan speeds these can also be selected by tapping the “**FAN**” button.

## Control Modes

**Heat Only Mode** - The SWC-TSTAT-2 thermostat will turn on the Heating when the room temperature falls below the Heat set point temperature. In Heat only mode the SWC-TSTAT-2 thermostat will NOT bring on the Cooling regardless of the room temperature and the Cooling Set point temperature. In Heat only mode, only the word “Heat” will be displayed in the LCD. When your SWC-TSTAT-2 is calling for heat, the word “**Heating**” will be displayed in the LCD.

If the word “Heat” is flashing in the LCD the SWC-TSTAT-2 is performing a safety anti-cycle delay prior to restating the heating.

**E. Heat Mode** - The SWC-TSTAT-2 thermostat will only use your emergency heating device to maintain your desired heating temperature. This method of heating can be quite expensive therefore it is not recommended to use emergency heat mode unless it is essential. When your air conditioning system is heating using emergency heat, the word "E.Heat" in the LCD will change to the word "E.Heating".

**Cool Only Mode** - The SWC-TSTAT-2 thermostat will turn on the Cooling when the room temperature rises above the Cool set point. In Cool only mode the SWC-TSTAT-2 thermostat will NOT bring on the Heating regardless of the room temperature and Heating set point temperature. In Cool only mode, only the word "Cool" will be displayed in the LCD. When your air conditioning system is cooling, the word "Cool" in the LCD will change to the word "Cooling".

If the word "Cool" is flashing in the LCD the SWC-TSTAT-2 is performing a safety anti-cycle delay prior to restating the Cooling.

**Autochange over Mode** - The SWC-TSTAT-2 thermostat will turn on the Heating if the room temperature falls below the Heat Set point temperature and the Cooling if the room temperature rises above the Cool Set point. This is the recommended mode as it provides automatic control of the air conditioning system to maintain the desired room temperature. Auto changeover mode is indicated by both the words "Heat" & "Cool" in the LCD.

If the word "Heat" or "Cool" is flashing in the LCD the SWC-TSTAT-2 is performing a safety anti-cycle delay prior to restating the air conditioning system.

## Fan Functions Explained

### Auto Fan Mode

If the user has selected Auto Fan mode with the “FAN” button the indoor fan will turn on when the heating or cooling turns on, and off again once the heating or cooling turns off. To conserve energy your fan may continue to run monetarily after the heating or cooling has stopped to extract all the warm or cool air still remaining in the air condition system and bring that conditioned air into the building.

### Fan On Mode

#### Manual Thermostat Mode

Your fan will run continuously.

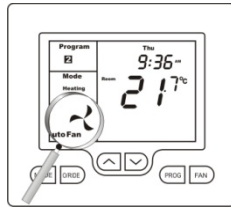
#### Programmable Thermostat mode

By selecting “Fan On” or continuous fan mode the SWC-TSTAT-2 thermostat indoor fan “may” operate continuously between the “Start” or number “1” programs and the “Stop” or number “4” programs and then turn on and off as required with heating and cooling outside of those programmed events.



*Please Note – Your installer may have activated some of the many advanced indoor fan management capabilities of the SWC-TSTAT-2 thermostat that work in partnership with the “Fan On” Mode. This may result in the fan operating differently than described above. If you find this to be the case and undesirable, please contact your authorised Spinwave Systems Inc service agent for advice on altering the function.*

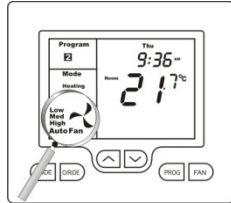
## Fan Speeds



### Single Fan Speed

If your air conditioning system has one fan speed, your SWC-TSTAT-2 thermostat will display the fan information shown on the picture to the left. The words “High”, “Med” or “Low” will be absent from the LCD.

Tapping the “**FAN**” button will permit you to select either “Fan On mode” or “Auto Fan mode” as described above.



### Three Fan Speed

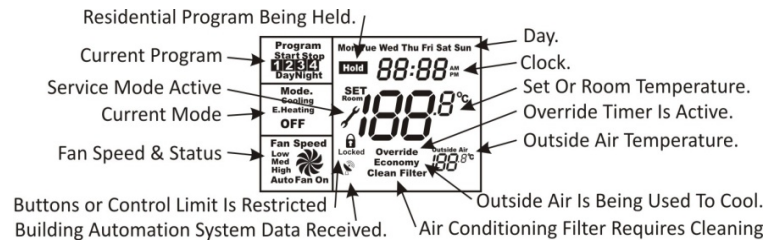
If your air conditioning system is fitted with 3 fan speeds your SWC-TSTAT-2 thermostat will display the fan speeds as shown on the picture to the left.

Tapping the “**FAN**” button will step the fan speed selection through “Low”, then “Med(ium)”, then “High” fan and Auto fan speed(indicated by all three fan speeds being shown on the LCD) in auto fan mode, the “Low” “Med(ium)” and “High” in Fan On mode. If auto fan speed has been selected the SWC-TSTAT-2

thermostat will indicate the automatically selected fan speed by flashing in appropriate word in the LCD.

If Auto Fan Speed has been selected your SWC-TSTAT-2 thermostat will automatically select the most appropriate fan speed based on the difference between the room and set temperatures.

### LCD Explained



### Note:

Your SWC-TSTAT-2 thermostat is capable of many advanced control capabilities, designed to both save energy and improve comfort levels. If any part of the SWC-TSTAT-2 display is flashing during normal use, a safety, energy management or program delay/override is in progress. This is normal and is no cause for concern.

**Padlock Symbol.**

Whenever this symbol is shown, a control limit has been reached or a button or function has been locked out.

**Wrench Symbol.**

If you see a wrench icon flashing on your LCD, the installer has left your thermostat in "Commissioning mode". Although your thermostat will operate your heating and cooling system whilst in "commissioning mode", all active safety and energy conservation delays have been disabled. It is therefore HIGHLY recommended that you contact your installer and request that the installer mode be disabled.

**Satellite Symbol**

This indicates that your thermostat is receiving information from a building supervisory control (or BMS) system. The information received from the building supervisory control system may change the function (mode or set temperature) of the thermostat. This is normal and no cause for concern.

**TEXT "Locked".**

The temperature of the outside air can initiate or prevent certain functions within the SWC-TSTAT-2 thermostat from operating. If such a function has been prevented based on the outside air temperature, the word "LOCKED" appears. These functions will automatically "unlock" once the outside air temperature becomes favourable.

**TEXT “Clean Filter”.**

This is a reminder to you to clean or replace your return air filter. Once you have cleaned or replaced your return air filter **PRESS & HOLD** both the **MODE** and **FAN** buttons together for 5 seconds. The LCD will blink and the filter counter will reset and the text “Clean Filter” will vanish.

**TEXT “RECO”.**

If the SWC-TSTAT-2 Adaptive Recovery mode is active, the SWC-TSTAT-2 will pre-warm or pre-cool your building to ensure your set temperatures are reached by your scheduled event start time. Whenever the SWC-TSTAT-2 is performing a pre-warming or cooling the word “RECO” (recovery) will be shown on the LCD.

**Text “Economy”**

The SWC-TSTAT-2 thermostat can be fitted with an optional module that will analyse building temperature, outside air temperature and the building cooling demands. If the correct conditions are present, the SWC-TSTAT-2 will use this outside air rather than electric cooling (or supplement the electric) cooling to bring the building to the set temperature in the most energy efficient manner.

**Text “HOLD”**

This indicates that the residential program is held (inactive) and a permanent set temperature is enabled. This temperature can be changed manually if desired however automatic time based temperature changes are suspended.

**Text “FAULT”**

The SWC-TSTAT-2 has been “requested” to shut down the heating, cooling or Airconditioning system as a response from an external command. This request may have come from a sensor fitted to the air conditioning system, a sensor monitoring supply power or a multitude of interlocks. This fault would require a service call to your air conditioning service person.

**Communications.**

Your thermostat has circuitry which permits it to wirelessly receive commands or provide data to a Building Management System. A Satellite symbol will be displayed on the LCD when this communication is in progress.

The intent of this communications is to permit the centralised control of all building functions which can include building climate control.

All thermostat user and installer functions can be accessed via the BMS and override any setting made by the user when using the thermostat buttons.

This ability is especially useful when a large building with multiple Air Conditioning units must be controlled.

**Remote Temperature Sensors.**

Your thermostat is fitted with an accurate and reliable temperature sensor used to measure the room temperature. There may be occasions where the thermostat cannot be placed in an ideal location for space temperature measurement; therefore the installer may have fitted “remote temperature sensor(s)”. These sensors will then report the space temperature from the remote temperature location back to the thermostat where this temperature will be displayed on the LCD.

If your thermostat is used in a commercial location, your room temperature sensor may be fitted with a button which activates the afterhours run function.

## Troubleshooting

Symptom	Suspected Fault	Suggested remedy
Temperature display seems inaccurate	Air from the wall cavity may be leaking into the rear of the thermostat / sensor enclosure.	Plug holes in wall with tape to prevent leaks
	External heat or cool source such as lamps, televisions or drafts from open doors affecting the accuracy of sensor.	Move lamps, vents or other sources of abnormal temperature away from sensors
	Sensor calibration may setting are incorrect	Call Spinwave Systems Inc service for information on calibrating the air temperature sensor
	A remote temperature sensor may be in use.	The temperature is NOT being measured at the thermostat location, the remote location may have a different temperature
"Locked" appears on LCD and heating or cooling will not operate.	This is not a fault. Outside air temp to high to permit heating Outside air temp to low to permit cooling.	Heating and/or cooling disabled to conserve energy. The heating or cooling function can be disabled when the outside temperature is warm or cool enough to not warrant the use of the A/C system.
Fan speed changes frequently	This may not be a fault	Your SWC-TSTAT-2 is choosing the most energy efficient fan speed for the current conditions. Try selecting a speed manually with the fan button.
Wall controller has no display	Check air conditioning main fuse	Reset home A/C fuse
	Faulty Wiring, fuse or SWC-TSTAT-2	Call Spinwave Systems Inc service
Heating, Cooling or Air Conditioning System seems to runs all night.	Heating and or cooling temperatures set for un-achievable value.	Call Spinwave Systems Inc service
	Heat Cool System set to Heat Pump Mode	Set a lower heat temperature and/or a higher cooling temperature. Review manual on setting temperatures
	Fan set to Fan ON mode	Installer setting Incorrect – call for service
	Fan set to Fan ON mode	Change fan mode to Auto
Wrench Symbol flashes on LCD	Installer has left the thermostat in "Commissioning mode"	Contact your installer and request "commissioning mode" be disabled.

Symptom	Suspected Fault	Suggested remedy
E.Heating is shown on LCD without manually selecting it.	This is not a fault.	Your installer has set your SWC-TSTAT-2 to automatically use "Emergency / Auxiliary Heating" if the outside air temperature is very low.
Some buttons do not appear to operate. Padlock is show on LCD.	Key board lock is on. See page 31 for more information on this function.	This is not a fault. Buttons or functions may be locked to prevent unauthorised tampering
Cannot enter heat or cool modes	SWC-TSTAT-2 thermostat set for Heating or cooling only modes	Heating or cooling mode not available on your air conditioning system.
I cannot set my desired heating or cooling set temperature. Padlock Symbol is flashing	This is not a fault. Your installer has set control limits for the Heating and or Cooling set temperature.	Contact your installer and request these limits to be removed / adjusted.
Outside Air Temp display is showing dashes	Outside air temperature air sensor has failed.	Check wiring and outside air sensor. Replace outside air sensor
	No outside air sensor fitted.	Installer has set "TT" terminal function incorrectly – Call for service.
"Heat" or "Cool" is flashing in the LCD. Heating or cooling has not started.	This is not a fault. Heating or cooling will start shortly.	The SWC-TSTAT-2 is performing an anti cycle time delay to conserve energy and to protect the heating, cooling or A/C system. Contact the installer if you wish this function disabled (NOT recommended).
The Fan runs on for some time after the heating or cooling stops, even when I turn the SWC-TSTAT-2 OFF.	This is not a fault. (Fan ON will be flashing)	The SWC-TSTAT-2 is fitted with a "Fan Purge" function that keeps the fan running for a minimum amount of time after the heating or cooling has stopped. Contact the installer if you wish this function disabled (NOT recommended).
Temperature display in the wrong format – C or F.	The SWC-TSTAT-2 can operate in both Deg C or Deg F mode, this is set by your installer.	Contact your installer or Spinwave Systems Inc for information on changing your display type.

## Specifications

Input Voltage	24VAC 50/60 Htz +/- 15%.
Relay rating	24VAC @ 1Amp maximum per relay.
Operating Temperature	0-50C (32 to 122F).
Operating RH	0-95% (non condensing).
Storage Temperature	0-65C (32 to 150F).
Size	113 x 103 x 23mm.
Display Size	74 x 55mm.
Temperature Sensor(s)	10K NTC type 3.
Memory type	Non volatile – Settings do not require battery backup.
Accuracy	+/- 0.3deg C @ 25 C. (77F)
Stage Delays	Minimum temperature change + time method.
Maximum stages controlled	2 cool & 3 heat (Installer selectable)
Fan Speeds controlled	1 or 3 (Installer selectable)
Timed upstage Delay	5~90 minutes (installer adjustable).
Anti-cycle Delay	Off or 4 minutes.
Maximum hourly cycles	Unlimited, 30, 10 or 6. (Installer set)

Display resolution	0.1 deg C (0.2F).
Control Range	Off to 45c (113F).
Outside Air temp display range	-8 ~ +60c (17 ~ 140F).
Security	Pin protected Installer menu with key lock. Heat & Cool set control limits. Lithium backup battery for clock functions.
Back light	Blue EL.
Backlight life	3,000 hours to half brightness.
Optimised Start/Stop method	Time to start vs temp differential method - updating.
Fan speeds	Based on difference between room and set temp.
Communications Protocol	IEEE 802.15.4
Battery type	CR 1220 (Bucks up clock only)
Battery life	> 5years (10 years Maximum)
Warranty	2 years RTB.

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